

CLAIMS

1. A feed metering device (1, 2, 3, 4, 5) for distributing fodder and/or drink in metered portions to an animal, which feed metering device (1, 2, 3, 4, 5) is provided with a feed unit (10, 20, 30, 40, 50) for containing fodder and/or drink, an entrance opening (11, 21, 31, 41, 51) to the feed unit (10, 20, 30, 40, 50), and a feed supplying device (13, 23, 33, 43) for supplying an amount of fodder and/or drink to the feed unit (10, 20, 30, 40, 50), characterized in that the feed metering device (1, 2, 3, 4, 5) is provided with means for weighing the fodder and/or drink present in the feed unit (10, 20, 30, 40, 50), the feed unit (10, 20, 30, 40, 50) being pivotably and/or rotatably fastened to the feed metering device (1, 2, 3, 4, 5,) for the purpose of co-operating with the weighing means.
2. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, characterized in that the feed metering device (1, 2, 3, 4, 5) further comprises an animal identification device (12, 22, 32, 42, 52) for recognizing a particular animal that visits the feed unit (10, 20, 30, 40, 50).
3. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 2, characterized in that the feed supplying device (13, 23, 33, 43) supplies an amount of feed to the feed unit (10, 20, 30, 40, 50) with the aid of data from the animal identification device (12, 22, 32, 42, 52).
4. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, 2 or 3, characterized in that the means for weighing the fodder and/or drink present in the feed unit (10, 20, 30, 40, 50) are connected to the feed supplying device (13, 23, 33, 43) for supplying an amount of fodder and/or drink to the feed unit (10, 20, 30, 40, 50) with the aid of data both from the animal identification device (12, 22, 32, 42, 52) and the weighing means.
5. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the means for weighing the fodder and/or drink present in the feed unit comprise:

a feed unit (10, 20, 30, 40, 50), which is pivotable about a hinge pin (26, 36, 45, 57), the degree of pivotability being determined by the weight of the fodder and/or drink present in the feed unit (10, 20, 30, 40, 50),

5 a device (18, 201) for determining the degree of pivotability of the feed unit (10, 20, 30, 40, 50) and for deducing, from the degree as determined, the weight of the fodder and/or drink present in the feed unit (10, 20, 30, 40, 50).

10 6. A feed metering device (1, 2, 3, 4, 5) as claimed in
claim 5, characterized in that the device (18, 201) for
determining the degree of pivotability of the feed unit (10, 20,
30, 40, 50) and for deducing, from the degree as determined, the
weight of the fodder and/or drink present in the feed unit (10,
20, 30, 40, 50), is integrated in the animal identification
device (12, 22, 32, 42, 52).

7. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 5 or 6, characterized in that the device for determining the degree of pivotability of the feed unit and for deducing, from the degree as determined, the weight of the fodder and/or drink present in the feed unit, comprises a measuring roll (19, 29, 39, 47, 56) which is in contact with the feed unit.

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25 8. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 5 or 6, characterized in that the device for determining the degree of pivotability of the feed unit and for deducing, from the degree as determined, the weight of the fodder and/or drink present in the feed unit, is constituted by a load sensor (202), the feed unit bearing on the load sensor (202).

9. A feed metering device (1, 2, 3, 4, 5) as claimed in
30 claim 8, characterized in that the load sensor (202) is included
in the animal identification device (22).

10. A feed metering device (1, 2, 3, 4, 5) as claimed in
claim 7 or 9, characterized in that the hinge pin (204, 59) and
the measuring roll (29, 56) respectively the load sensor (202)
are located at a small distance from each other.
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11. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that there is

provided a safety supporting bracket (101, 205, 58) for the feed unit.

12. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 1, 2 or 3, characterized in that the means for weighing 5 the fodder and/or drink present in the feed unit comprise:

a movable feed unit (30),

a motor (38) for moving the feed unit (30),

10 a device (301) for measuring the magnitude of the torque during movement and for deducing, from the magnitude of the torque measured, the weight of the fodder and/or drink present in the feed unit (30).

13. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 12, characterized in that the motor (38) for moving the feed unit (30), and the device (301) for measuring the magnitude of the torque during movement and for deducing, from the magnitude of the torque measured, the weight of the fodder and/or drink present in the feed unit (30), are integrated in the animal identification device (32).

14. A feed metering device (1, 2, 3, 4, 5) as claimed in 20 claim 12 or 13, characterized in that the motor (38) for moving the feed unit (30) drives a torque roll (39), which torque roll (39) is in contact with the feed unit (30).

15. A feed metering device (1, 2, 3, 4, 5) as claimed in 25 any one of the preceding claims, characterized in that the feed metering device (1, 2, 3, 4, 5) is further provided with means (15, 16, 25, 27, 30, 40, 45, 46) for deterring an animal that visits the feed unit (10, 20, 30, 40, 50) from taking fodder and/or drink.

16. A feed metering device (1, 2, 3, 4, 5) as claimed in 30 claim 15, characterized in that the means (15, 16, 25, 27, 30, 40, 45, 46) for deterring an animal with the aid of data from the animal identification device (12, 22, 32, 42, 52) deter an animal.

17. A feed metering device (1, 2, 3, 4, 5) as claimed in 35 claim 15 or 16, characterized in that the means for deterring an animal are at least partially integrated in the animal identification device (12, 22, 32, 42, 52).

18. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 16 or 17, characterized in that the means for deterring an animal include a loudspeaker (16) for producing an animal-frightening sound.
- 5 19. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 16, 17 or 18, characterized in that the means for deterring an animal include a lighting device (15) for emitting an animal-frightening light.
- 10 20. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims 16 to 19, characterized in that the means for deterring an animal include a voltage emitting device (27) for emitting an animal-frightening electric voltage.
- 15 21. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims 16 to 20, characterized in that the means for deterring an animal include a closing means (25, 30, 40, 46, 50, 55) that is movable across the entrance opening.
- 20 22. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 21, characterized in that the movable closing means is constituted by the feed unit (30, 40, 50) which is designed as a movable one.
- 25 23. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 22, characterized in that the feed unit (30) comprises a wall portion (35) for catching remaining fodder and/or drink.
24. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 21, 22 or 23, characterized in that the closing means (25, 30, 40, 46, 50, 55) rotates about an axis (26, 36, 45, 47), the closing means being driven by a motor (28, 38, 48) which is controlled with the aid of data from the animal identification device (12).
- 30 25. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 24, characterized in that the motor (28, 38, 48) drives a roll (29, 39, 47) which contacts the closing means.
- 35 26. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 25, characterized in that the motor and the roll are included in the animal identification device.

27. A feed metering device (1, 2, 3, 4, 5) as claimed in claim 26, characterized in that the feed unit bears on the animal identification device by means of the roll.

28. A feed metering device (1, 2, 3, 4, 5) as claimed in claims 7 and 25 or 14 and 25, characterized in that the roll for driving the feed unit and the torque roll respectively the measuring roll, are constituted by one roll.

29. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the animal identification device (12, 22, 32, 43, 53) is disposed in the vicinity below the entrance opening (11, 21, 31, 41, 51).

30. A feed metering device (1, 2, 3, 4, 5) as claimed in any one of the preceding claims, characterized in that the means for deterring an animal are at least partially integrated in the means for weighing the fodder and/or drink present in the feed unit (10, 20, 30, 40, 50).
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